

# INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/AU02/01585**

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
Int. Cl. <sup>7</sup> : F16H 1/32, 1/46, F16D 65/34		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols) See below under "Electronic database consulted"		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI: F16H 1/32, 57/08, 1/46; F16D, B60T with keywords: motor, electric, orbital, epicyclic and similar terms		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0170505 A2 (AE PLC) 5 February 1986 The whole document	18
Y	US 4795002 A (BURGEI et al.) 3 January 1989 The whole document	18
A	US 5536218 A (FUKAYA et al.) 16 July 1996 The whole document	1-17
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>		
Date of the actual completion of the international search <b>13 December 2002</b>		Date of mailing of the international search report <b>20 DEC 2002</b>
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929		Authorized officer  <b>ASANKA PERERA</b> Telephone No : (02) 6283 2373

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<b>C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
<b>Category*</b>	<b>Citation of document, with indication, where appropriate, of the relevant passages</b>	<b>Relevant to claim No.</b>
A	DE 19617226 A1 (WEBASTO KAROSSERIESYSTEME GmbH) 3 July 1997 The whole document	1-17
A	WO 01/55612 A1 (SKF ENGINEERING AND RESEARCH CENTRE B.V.) 2 August 2001 the whole document	1-17
A	WO 89/03490 A1 (ALLIED-SIGNAL INC.) 20 April 1989 Abstract and Figures	18-28
A	US 5590744 A (BELMOND) 7 January 1997 Abstract and figures	18-28

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## Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos :  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos :  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos :  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

## Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
See the Supplementary Box

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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### Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

#### Continuation of Box No: II

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 1-17 are directed to an actuator including an electric motor and an orbital transmission. It is considered that a first gear mounted on an eccentric and the arrangement of the first and the second orbit gears and outer gears as defined in claim 1 and 7 comprise a first "special technical feature".
2. Claims 18-28 are directed to a brake actuator with an engaging cable. It is considered that the combination of an electric motor, an orbital transmission, and an output pulley engaging the cable for applying and releasing the brakes according to its sense of rotation comprises a second "special technical feature".

These groups are not so linked as to form a single general inventive concept, that is, they do not have any common inventive features, which define a contribution over the prior art. The common concept linking together these groups of claims is the use of an electric motor and an orbital transmission in an actuator. However this concept is not novel in the light of WO 89/03490A1. Therefore these claims lack unity a posteriori.

However since all these inventions share the same classification under the IPC they could be searched together without effort which would warrant an additional fee. Therefore all the inventions have been searched without extra charge.

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
US	5536218	FR	2712366	JP	7133847		
DE	19617226	NONE					
WO	200155612	AU	200134245	EP	1250536		
EP	170505	AU	45313/85	ES	545592	ES	8609631
		GB	2165917	JP	61119867	US	4651580
		ZA	8505636				
US	4795002	NONE					
WO	8903490	US	4795002	AU	17993/88	BR	8807727
		CA	1300045	EP	394238	ES	2011134
		US	4850457				
US	5590744	EP	710595	FR	2726525	JP	8295210
END OF ANNEX							